

MONTANA BUSINESS QUARTERLY

SPRING 1974

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BILL CHRISTIANSEN

The Energy Crisis: A Challenge of Global Dimension

Montana's energy chief says that the only solution is an all-out and continuing effort to make conservation of all energy sources a way of life

I am constantly asked the questions:

"How could the greatest nation on earth find herself suddenly, with minimal warning, in this energy-deficient position?"

"How could we support the tremendous petroleum demands of a ten-year foreign war, and during that period still have adequate domestic petroleum, and yet, within a year of the cessation of our major involvement in that war, have severe energy problems at home?"

The environmentalist sees the situation in terms of excessive use and waste of energy (resources). The gas industry sees it in terms of locked-in well-head prices; the automaker in terms of exhaust emission standards; the oil industry in terms of refining capacity and import quotas; the electric utility in terms of licensing delays; the university in terms of inadequate R & D; the treasury in terms of balance of payments; the coal industry in terms of stripmining regulations.

I could give an expanded list of conventional, and somewhat acceptable, answers to these questions, but I am not going to waste your time. To sulk about events in history is self-defeating; to learn from them, commendable. Be comforted by the fact that if the annual doubling of our

dependence on foreign oil had continued for another year or two and then the spigot had been turned off, "a chaotic situation" would be the most pleasant words I could find to describe that event. It is merely a matter of semantics whether we refer to this current energy situation as a "dilemma," "crunch," "crisis," or "calamity," but there is no doubt there is an energy challenge, and it is of global dimension.

I am frankly pleased that the world energy poker game forced our country to take an early look at our hole card. For my personal purposes, the energy lesson I have learned is "You cannot continue to supply *infinite* energy demands from *finite* energy sources."

I was not particularly pleased with recent news that shipment of Arab oil is again under way. Dependence on Mideast oil still carries with it implications of a threat to international peace and of substantial disturbance in our balance of payment situation.

Probably the message we will understand best will reach us through our pocketbooks: Imported oil is not cheap oil, but, rather, the most expensive on the market today. Let me assure you, the era of cheap energy is over. Substantial use of this oil can only result in high prices for all petroleum energy sources used by our nation. Only by the cutting of

This paper is taken from an address presented to the Polson Chamber of Commerce, April 17, 1974.

Bill Christiansen is Lieutenant Governor of Montana.

Spring 1974

our personal energy requirements by 20 percent, or more, will we avoid more than *doubling* our energy bills within two years. The trend is already clear: According to the U.S. Bureau of Labor Statistics, gas and motor oil prices are up 30.9 percent when comparing February 1974 with February 1973; in a like manner, prices of fuel and coal are up 58.8 percent in the past year.

"You cannot continue to supply infinite energy demands from finite energy sources"

The energy crisis is not so much a problem of limited supply as one of uncontrolled demand. Let me now try to illustrate how the total energy picture is interrelated.

It is my contention that the saving of any energy source, be it liquid petroleum products, coal, oil shale, natural gas, electricity, reservoir water, or really any source whatever, can result in the potential alleviation of a shortage in another energy sector.

It is interesting to note that Americans use 17.5 million barrels of liquid petroleum per day; this is almost half of our total energy requirements. Of that 17.5 million barrels, almost 9 million barrels are used for transportation. And of that 9 million barrels, over 6 million barrels per day are required by our 100 million passenger cars. What we are really looking for is a way to reduce these demands by 3.5 million barrels.

Also, of the 17.5 million barrels per day, over 6 million barrels, or nearly 40 percent, now comes from other countries—and of that 6 million barrels, about half, or 3 million barrels, comes either directly or indirectly (processed in European refineries) by tanker from the Arabs.

Obviously, any saving in the gasoline requirements of this nation could result in the increasing availability of other liquid petroleum products—particularly diesel fuels, which are still in extremely short supply, as indicated by the mandatory allocation program of middle distillate fuels put into effect by the federal government on

November 1, 1973. One way to achieve a significant saving is suggested by figures which indicate that a 50-mile-per-hour speed limit for passenger cars could accomplish a 20 percent saving of gasoline, one million barrels daily. The combination of more efficient smaller vehicles, share-the-ride, Sunday closing, tune-ups, properly inflated tires, and further utilization of urban transit and passenger buses could, with *full* cooperation of the traveling public, save perhaps an additional 800,000 barrels per day.

Twenty-five percent of the United States' total energy requirement is for the purpose of heating water, and heating or cooling space, a clear indication that a concerted citizen effort in this area can be very effective in the total energy picture. Each degree raised in summer or lowered in winter results in a 3 percent savings; or, for every degree of summer heat that we do not respond to with air-conditioning equipment and for every degree of winter heating we reduce (along with additional night reductions), 200,000 barrels of oil per day can be saved. Very obviously, five-degrees-equivalent hotter in summer and five degrees cooler in winter can accomplish a one-million-barrels equivalent of oil saved daily.

§

In spite of the promise of the development of new sources of energy, I do not expect advancing technologies to solve our short-range energy problems—and by short-range, I mean up to ten years. The only dependable solution during that time frame is a drastic reduction in our energy requirements. I totally support a crash research and development program, but I recognize its time frame limitations.

Technology has three broad areas of challenge:

1. To find, possibly, an infinite source of energy. Even in this situation, I can't endorse infinite demands.

2. To move toward the probably unattainable goal of zero pollution in the utilization of existing energy sources.

3. And, of almost equal importance, to see that energy "in" in an energy conversion facility moves toward equaling energy "out." None of us likes the 35 percent conversion factor of all types of fossil fuel steam generating plants. If energy "in" would

equal energy "out," one ton of coal could do work that now requires three.

§

Montana's huge resources of coal have attracted a good deal of attention from energy companies and the federal government. Disregarding the philosophical questions for the moment, let's look at present-day facts of life concerning coal.

Montana's coal production during the past three years has somewhat flattened out. In 1971 Montana produced 7 million tons; in 1972, 8 million tons; and in 1973 production was slightly under 11 million tons. Most of this output was shipped to generating plants in the Midwest.

About half of U.S. coal production is accomplished by surface mining. Between 85 and 90 percent is produced east of the Mississippi River. Because of low-sulfur requirements, some forecaster indicated that production figures will be reversed in the very near future and 80 to 85 percent of the coal will be low-sulfur coal from west of the Mississippi. This cannot be accomplished in a short time frame because of a combination of several constraints, some of which are legal and some, just plain facts of life.

Although many preleasing activities take place, lease acquisition is the first legal milestone in developing a coal property. As you may know, two years ago the federal government stopped processing applications for mineral leases on federal lands. All indications are that this moratorium will not be lifted until at least the end of 1974. Many applications are now on file on which no action has been taken.

Once the lease is finally acquired, there is also substantial additional exploratory work required before a specific mining site is selected. In the state of Montana a permit for exploratory work may be issued only after environmental evaluation.

One of the substantial additional delays is rail availability to mining sites. Each of the three recent mining interests now operating in Montana have had to run rail spurs and loading loops into the mines. They are, of course, the Peabody Coal Company, Western Energy Company, and the Decker Coal Company. Westmoreland has also just completed a 37-mile spur line into its mine site.

Inherent in the right-of-way acquisition for rail service are, again, the environmental impact statements and the public hearing process.

Under Montana law, a very rigid examination of the area to be mined is necessary, along with, once more, impact statements and public hearings, before a permit to mine is granted by the state of Montana.

The equipment necessary to mine, such as draglines, shovels, front-end loaders, haul trucks, tipples, crushers, and so forth, take time to acquire and deliver to the site, and mining capability is limited by their numbers and sizes. A recent check I made with the three major suppliers of heavy mining equipment indicates that their first possible delivery of this equipment, if the order were given right now, would be the fall of 1978. As an example, the 75-cubic-yard dragline now being assembled by Westmoreland requires one year for assembly alone. Those who have placed recent orders for this type of heavy equipment indicate that steel is in short supply and substantial delays are occurring.

In addition to the problem of acquiring and building the line in the instance of a railroad, mining companies are complaining about a lack of railroad rolling stock and locomotive power—again, a result of steel shortage.

"Our coal production cannot be miraculously tripled or quadrupled in a short time frame"

You are aware of the national directive preventing coal-fired generating plants from changing to oil. Also, some of the oil-fired plants have been encouraged to convert to coal. You may have seen news releases that this could be accomplished in some instance in sixty days. Secretary of Transportation Brinegar said he felt some of these change-overs would require, for the most part, eight to twelve months.

By indicating that our coal production cannot be miraculously tripled or quadrupled in a short time frame, I am trying to reinforce my position that there are no easy answers to our energy problems.

§

The relaxation of air quality standards at selective generating sites, as suggested by the president, could result in a lessening of demand for Montana coal. Montana coal, valued at 12 to 15 cents per million Btu's at the mine mouth, brings about 70 cents per million Btu's at the burning site in the Midwest. This is simply the result of the cost of moving coal to market. If the standards were relaxed to allow higher-sulfur Midwest coal to be burned, obviously the utilities would not choose to pay the premium freight they are now paying. I do not endorse this procedure.

It would be difficult, if not impossible, for me to accept the relaxation of the environmental progress this country has made in the last few years, even on a temporary basis. I am not comforted by the fact that under this circumstance the pollution would occur in areas remote from Montana. Environmental considerations are a world problem, and most certainly a national problem, and any reduction of standards which are protective of the environment affects us all.

"If development is going to come to Montana, it will come on terms dictated by Montanans"

Much has been said about the Montana legislature's enactments in the 1973 and 1974 legislative sessions. I have described the energy plan siting bill, the reclamation act, the coal conservation act, and the indemnity trust fund with the much used but totally accurate words of "strongest in the nation." Beyond this, these laws require public participation before decision. Additionally, the citizen's right of mandamus because of either nonfeasance or malfeasance of a public official charged with the administration of these acts is clearly spelled out in the acts themselves. We have the muscle in these laws to insist that if development is going to come to Montana, it will come on terms dictated by Montanans through a consensus opinion arrived at by democratic processes.

Still, our heads are not in the sand to the extent

that we do not recognize that federal preemption could wipe out all these needed protections.

When I speak about strong laws and firm enforcement, I am not implying that Montana should build a fence around her borders, even though we have been accused of such activity. On the contrary, we must remember that our autos came from Detroit—and the steel for those autos, from Gary, Indiana, where formerly housewives could not hang their wash on an outside line because of the existing levels of air pollution.

Other parts of the nation are paying environmental prices to provide Montanans with industrial products. Conversely, costs of environmental cleanups are included in the total price paid by Montanans for industrial products manufactured elsewhere.

The established programs and policies within the legislative and executive departments of Montana government are the result of an irrevocable commitment Montanans have made to preserve their state from totally unnecessary degradation and exploitation. This combination of strong legislation and firm enforcement marks the end of the era in Montana when natural resources were the exclusive property and privilege of the developers.

I believe that it would be contrary to the national interest to temporarily ease the energy crisis and at the same time create an accumulation of permanent environmental problems in Montana and the other coal-producing states. There is also a fundamental inequity in requiring our state to make unreasonable sacrifices to solve a problem of national and global dimension.

§

Let's sum up the things it would, in my opinion, be irresponsible to depend on for either short- or long-range solutions.

1. The reliability of foreign imports, regardless of the source.
2. New fossil fuel discoveries, even when accompanied by the Alaskan pipeline and deep-water ports.
3. Low-sulfur strippable coal for more than a stop-gap answer.
4. Technology to miraculously bail us out.

5. Nuclear power, through either fusion or fission, except as a possibility in the long range.

The only certainty, as I see it, for both the long and the short haul is an all-out and continuing effort to make conservation of all energy sources a way of life. Montana citizens have done much and will continue to do more toward that goal, but its achievement will need 100 percent cooperation and participation.

I, therefore, urge that each of you continue to be

conservation conscious; that each of you adopt an energy ethic of thrift rather than spendthrift; and that you continue to take those myriad small steps to save energy which are available to you in your daily lives.

Much has been said about 1980 as the target date for "Operation Independence." My fondest hope would be that this nation through conservation could accomplish "Operation Independence" from this day forward.

DAVID E. NELSON

Business and the Arts in Montana

Support for the arts can humanize business and improve the quality of life even in so large and sparsely populated a state as Montana

Montana has problems which are impeding the growth of the arts. These problems are not those one would ordinarily assume: Montana abounds with creative artists and craftsmen, and has demonstrated its responsiveness to the arts. Montana's impediments are size and lack of adequate patronage. Its physical vastness and relatively small population exert a strain not only on the accessibility of the arts, but also on the support available to it. Patronage for diverse arts activities is always a problem when there is an absence of a population concentration in excess of 500,000 people—and Montana's people are scattered over a wide territory.

Montana is a giant of a state, remote from population centers. Alaska is also a giant of a state, remote from population centers; however, its legislative and business support for the arts is exemplary. Alaska may rank fifty-second in population among states and territories, but it is fifth in the nation in per capita support for the arts. By contrast, Montana ranks forty-fifth in population and thirty-seventh in per capita support for the arts.

Alaska's vastness of space and sparseness of population are obvious. But it is also obvious that Alaska views itself as one large community. Montana has much to learn from Alaska. We must expand major programs which can begin to focus on our creative resources and make them available to the state as one large community. This type of

program cannot be accomplished without the support of Montana business and its leaders.

An attempt to enlist such support will be made this fall, when state leaders in the arts and in business meet to organize the first Montana Business Committee for the Arts. To assist in this undertaking, nationally known businessmen who have involved their organizations in successful programs with the arts will be invited to Montana to share their experiences with interested businessmen from across the state.

The Business Committee for the Arts

The Montana committee will be organized in cooperation with the Business Committee for the Arts (BCA), "a private, tax-exempt, national organization of business leaders created to encourage business and industry to assume a greater share of responsibility for the support, growth, and vitality of the arts."¹ The idea for BCA germinated in 1965 in a Rockefeller Panel Report and in a speech by David Rockefeller. The Committee was formed in October 1967 by C. Douglas Dillon, and counts as members the heads of nearly one hundred of the nation's largest corporations. Currently, funding is provided by

¹BCA, pamphlet series (New York: Business Committee for the Arts, n.d.).

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members of the Committee, who are selected by invitation from the industrial and business leaders of the nation.

The BCA's role has been essentially one of liaison, advising both the artists and the corporate business community on how to approach each other and on what types of commitments to make. Through BCA a shift has taken place, from the support of the arts by individual business leaders to outright corporate support. Bringing the artist and businessman together is also useful in discarding the myth of the businessman as philistine and of the artist as self-centered dreamer. As David Rockefeller suggested when he proposed formation of BCA:

I feel it would be enormously helpful for representatives of business and the arts to exchange views face to face, to seek new ideas from each other, to clarify misunderstandings and explore new possibilities. It would help bridge the gap between the sometimes rigid mentality of the businessman and the creative spirit of the artist. Both sides could benefit far more from constructive critical interest than from biased attack or hostile neglect.²

"Art Is for Man"

Increasing support for the arts by the business community has evolved out of an awareness that a healthy business is directly related to a healthy environment. Corporations are realizing that they have a stake in the quality of life that prevails in their communities, and recognize that the arts are a positive humanizing force that can aid in combating the widespread negative influences that adversely affect the quality of life.

In a national study on receptivity to the arts conducted in January 1973 by the National Research Center of the Arts, Inc., 89 percent of the public responding felt that it is important "to the quality of life in the community to have facilities like museums, theatres, and concert halls." Eighty percent felt that such facilities are important "to the business and economy of the community."³ By 65 percent to 35 percent, they felt that "businesses have a responsibility to help support cultural activities in their communities."⁴

²David Rockefeller, "The Performing Arts—Problems and Prospects," *Rockefeller Panel Report* (New York, 1965).

³"National Public Opinion Study of Receptivity to and Participation in the Arts and Culture in the United States." (New York: The Associated Councils of the Arts, n.d.), p. 16.

⁴*Ibid.*, p. 225.

ARTRAIN on the Road in Montana

One instance of business-arts cooperation in Montana drew national attention when Charles Kuralt, in the "On the Road" segment for the CBS evening news, examined the highly successful touring of ARTRAIN in June 1973.

ARTRAIN was a unique multi-art event, a museum and artists' studio on wheels, designed for smaller communities that have little or no access to art galleries. The six-car ARTRAIN was transported throughout the Rocky Mountain region through the sponsorship of seven participating railroads, which in Montana included the Burlington Northern and the Butte, Anaconda and Pacific. Also responsible for the touring were the Federation of Rocky Mountain States, Inc., the Montana Arts Council, and the National Endowment for the Arts. The Montana segment of the tour included stops in Kalispell (where Charles Kuralt filmed), Anaconda, Lewistown, and Miles City. The project was a joint effort of the aforementioned organizations and much individual community work in coordinating the ARTRAIN effort on a community level. Aside from the railroads, business support came from the power companies (Montana Power and Pacific Power and Light), from Mountain Bell, and from independent telephone companies who provided complicated installations. Support from Chambers of Commerce, city and county organizations, and individual businesses, as well as the media—which gave excellent coverage, both local and regional—added to the success of this endeavor.

The tour proved highly rewarding, operating to capacity and reaching approximately 25,000 people in the four Montana communities visited. Ken Lewis, editor for the *Anaconda Leader*, termed ARTRAIN as "tremendously rewarding—an example of community cooperation and enterprise, and one of the continuing examples of the re-awakening of Anacondans to the pleasures, rewards, and insights of art."⁵

While federal funds were provided by the National Endowment for the Arts for ARTRAIN, those funds could not have been used unless an equal amount was raised through private money and contributed services. Also, without the

⁵*Anaconda Leader*, June 13, 1973.

railroads providing the transport for ARTRAIN at no cost, there would not have been an ARTRAIN.

Some Montanans Lead the Way

The annual Western art auction of the Great Falls Ad Club held for the benefit of the C. M. Russell Gallery is an outstanding example of business participation within a Montana community. The auction held this past March required the use of forty dealer rooms for three million dollars worth of art; and 1,400 persons from the community, state, and nation participated. During the past six years the Russell Gallery has received a total of \$147,000 from this source.

On an individual basis, Ray Campeau, a Bozeman high school teacher and president of the Montana Institute of the Arts, provides several Bozeman and Livingston banks with a useful service. For a fee, he represents the banks as their art director, and arranges exhibits for the banks: four, three-month shows per year. These exhibits are hung throughout the banks, in both offices and lobby space. Mr. Campeau as bank arts director removes pressure from officers who might be uncomfortable with making artistic judgments; and he aids the artists by providing their work with exposure to a wide spectrum of people, some of whom, it is hoped, may become new patrons. Thus, the program benefits everyone involved.

Campeau also arranges apprenticeships for arts students in local arts-related businesses. For example, he places jewelry students with local jewelers, helping them thereby to arrive at a more realistic conception of the jewelry business.

Other Programs That Have Worked

Employee-oriented programs serving the dual purpose of supporting the arts and creating a warm employer-employee relationship have been successful. Employee art shows have proven highly effective, sometimes involving inter-departmental competition. Lobbies can often be easily revamped into effective exhibition areas for employee talent. The purchase of tickets to a local performance,

which may or may not be underwritten by the company, and offering them to employees free or at a discount has also proven effective. An arts group may be invited to give a performance on company premises, with released time given to encourage employee participation. Several businesses have matched employee contributions to arts organizations. Outstanding employees can be rewarded with a piece of contemporary art commissioned by the company.

A major idea that has been tried, also, is the provision of space for exhibitions and demonstrations. Shopping centers especially lend themselves to this opportunity. The wide variety of people that pass through a center in a day allows for broad exposure and increases the likelihood of success for exhibits and demonstrations. Regular scheduling of cultural events can turn a business location into a culture center, with accompanying favorable community attention.

Vacant workspace or unused equipment can be put to good use by individual artists or arts organizations. The printing of monthly or quarterly arts calendars for local events has proven an effective means of advertising for both groups.

Business may find that its products and/or services can be used creatively by various artists—metal for sculptures, lighting for dramatic productions, etc. An artist may be subsidized to work with new materials, possibly the company's own product. An Ohio playing card company recently provided oversized playing cards as backdrops for an opera entitled "Games with Cards." Several accounting, management, and advertising firms have successfully volunteered their services to various arts organizations. Products or services can be offered as prizes or incentives in arts competition. Advertising, public relations, and labor can be donated and shared effectively with arts groups.

Wall paintings to cover bare, deteriorated, or highly visible walls have been used successfully through the support of single businesses or downtown merchants in conjunction with local artists or arts organizations. Businesses have sponsored classes in the arts relating to their particular function as a business: for example, a California furniture company has successfully conducted seminars in interior design. A company can commission or donate an art object to the

community—sculptures, fountains, paintings, etc. Many communities need sponsorship or underwriting of productions or performances which they could not otherwise afford.

Support of the Arts Yields Dividends to Business

The arts are an important factor in overcoming ugliness or blight in the physical environment. Dying city centers can and have been revitalized by downtown businessmen's associations and by individual merchants through creative architecture, wall paintings, sculpture, sponsorship of exhibitions, demonstrations, and performances.

The cultural atmosphere of a community is becoming increasingly important in attracting new business and new capital, and contributions to cultural programs also can involve tax deduction benefits for many businesses.

Business support for the arts may be a factor in direct sales, as well as in the acquisition and retention of perceptive and qualified personnel who often want to be part of an organization showing the kind of awareness that surfaces in the relationship of business to the arts.

Favorable publicity often attends service to the community through business-arts cooperation. Possibilities are numerous, and every business, no matter what its size, can contribute.

Nothing Takes the Place of Leadership

Above all else, funds and programs require leadership. When coupled with a desire for a quality life, the leadership found in business and the professions can make things happen. One such leader is Jim Haughey, who comments: "Art is absolutely vital to the human condition; and in an age of alienation, an era impersonalized and disoriented by technology, art is our hope for salvation." Jim Haughey is an artist, a Montanan, a respected statesman, and a lawyer of the highest caliber. His commitment to the arts is visible in each of his endeavors. As artist he has served as juror for the American Watercolor Society; as minority leader of the Senate he was instrumental in the formation of the Montana Arts Council. A walk through one of Montana's largest law firms, of which Jim is a partner, will reveal a warm and human atmosphere conveyed by the works of Montana artists carefully selected and abundantly displayed in the firm's offices and throughout its corridors. Jim Haughey is unusual—unfortunately.

It is hoped that through the first Montana Business Committee for the Arts meeting this fall leadership will emerge with programs which will continue and expand the democratization of the arts, making them accessible to an ever-increasing segment of our population.

ROBERT B. VERNON

Promoting Economic Literacy in Montana: The Montana State Council on Economic Education

Economics is seldom taught in Montana schools. Help is now available to implement courses in this basic subject

In Montana today, citizens face a bewildering array of economic problems both in their personal lives as consumers, workers, businessmen, union members, and investors, and as voters called upon to pass judgment on economic problems in the community, the state, and the nation. These problems range from managing personal finances to inflation; from school bond issues to revenue sharing; from the trade-offs between income and environmental control to the trade-offs between a new car and a new roof on the garage.

Economic decisions are made every day. Clearly, if we are to find answers to the complex problems that are crowding in on us, these decisions must be sensible ones. Economic decisions will be made anyway—that is not the issue. The issue is whether these decisions are going to be wise ones, based on reason, understanding, and logic, or foolish ones, based on emotion, prejudice, and ignorance. The price of the latter is surely too high to contemplate. Simple reliance on inherited wisdom, clichés, and myth cannot be tolerated.

The place to begin creating an economically literate populace is with the young. There are indications today that a growing number of people, particularly our young people, are dissatisfied with America's free-enterprise system. To some young

people "profits" is a dirty word. Others think that our price system should be replaced by some form of socialism. Why the dissatisfaction? To a great extent it can be traced to a lack of knowledge, a simple lack of understanding of the way in which our economy operates. For example, a recent national survey indicated that many of our students believe 75 percent of our national income consists of corporate profits. No wonder such misunderstanding exists!

Many young people do not go on to college, and many of those who do, don't take economics. So, the place to give our citizens their introduction to economic thinking is in our elementary and secondary schools. And yet the sad fact is that little or no economics is taught in Montana schools. Fewer than 5 percent of our high school students have the opportunity to take an economics course, and only a handful of the 5 percent avail themselves of the opportunity. One reason there is very little basic economic education offered to our students is that few high school teachers have the formal training necessary to teach economics effectively. At the University of Montana last year, bachelor's degrees in education were awarded to 358 future teachers—only 2 of those teachers majored in the teaching of economics! Currently there are only 12

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teachers in Montana certified to teach a separate economics course. This deficiency exists because of a vicious circle of circumstances. Schools do not offer economics because of a lack of trained teachers. Teachers do not train themselves to teach economics because of a lack of demand for high school economics courses. Clearly, this trend has to be reversed. We must replace misunderstanding with education, *economic* education.

How the Council Operates: Decentralized, Nonpolitical, Cooperative

Recognizing the need for economic education in Montana, representatives of business, labor, agriculture, finance, and education met in June of 1970 and founded the Montana State Council on Economic Education. Like forty-seven similar state councils throughout the United States, the primary objective of the Montana Council was (and is) to implement a program to introduce basic economics into Montana schools. The program is funded solely by the private contributions of industry, labor, agriculture, and trade associations.

Council activities have been guided by three principles, the first of which is *decentralization*. The Council regards itself as a service organization, a central coordinating agency to promote local action, provide consultant services, and act as a clearinghouse for information and materials. Final responsibility for the implementation of economic education projects rests with the local school systems.

The second principle is *objectivity*. The Council is nonpolitical and nonpartisan. The board of directors represent all sectors and viewpoints in Montana's economy. The Council does not try to promote any particular brand of economics. On the contrary, the Council promotes true education, which means developing in people the capacity to think for themselves. Evidence of success in this respect is found in the continued widespread support of the Council from professional, business, labor, farm, finance, and other organizations. A key factor in Council programs is that educators, not interest groups, have the responsibility for directing the activities of the Council.

The third principle is *teacher involvement*.

Whatever is done in a school or in a classroom must fit the special needs of the local situation, of the curriculum, and of the students. Teachers themselves are the ones who can best determine what these needs are. Teachers must therefore be involved in project planning and execution from the beginning. We cannot go to teachers and present them with the answers and tell them to implement them. We can and must help them find their own answers.

Programs for Teachers, Clergy, Journalists, and the Public

Of particular interest are the resources available through the Council for the implementation of statewide programs of consumer or economic education. These fall into four categories: teacher training, curriculum development, materials dissemination, and special programs.

Teacher Training. Training teachers to teach economics and to incorporate economic concepts into existing curricula is the backbone of Council activity. The reason for this is the tremendous multiplier effect that occurs through teacher education. Each year the average Montana teacher reaches at least 75 students. Thus the 137 teachers participating in 1972-73 Council programs will, next year alone, reach over 9,000 students.

In-service education programs of the Council are run through the Centers for Economic Education at the University of Montana in Missoula and at Western Montana College in Dillon. Programs last year were two, 4 ½-week summer session courses in basic economics at U.M. and a 2-week workshop on the Montana economy at W.M.C. (These programs are designed as prerequisites for work leading to eventual certification to teach economics as a separate course.)

In addition, the Council supported two intensive one-week workshops in application of economics to the existing school curriculum at Great Falls and Kalispell. The focus of these workshops was the introduction of economic concepts into existing courses. Finally, forty-hour curriculum development workshops were held for the social studies faculty of Hellgate High School in Missoula and for the faculty of the Fort Benton school system. (Here the emphasis was on the

implementation of an integrated program of study of economic concepts, designed to fit the teaching methods of a particular school.)

Curriculum Development. Teacher training is a wasted effort if teachers do not have good teachable courses. Excellent materials have been developed nationally by the Joint Council on Economic Education in New York, and by state councils similar to ours. Integration of these materials into Montana schools, however, requires that materials be selected and modified to meet the needs of Montana's school systems. Teaching methods and objectives vary from community to community. More importantly, the educational needs and backgrounds of students vary widely throughout the state. To effectively integrate economics into Montana schools, economics curricula must be written by Montana teachers and tested in Montana schools.

The Council is involved in two types of curriculum development programs. The first is the Cooperating Schools Program of the Joint Council in New York. Through this program, Missoula County School District No. 1 has entered into a contract to develop an integrated program of study in economics. Schools receive materials, consultant time, and financial support. In return, the schools experiment with new teaching methods in economics, and write courses and teaching aids that may be used by other Montana schools. Benefits from the program include the availability of teaching tools and consultants on a national level, and the creation of courses geared to the needs of Montanans. Output from this program includes the Hellgate High School curriculum workshop and the writing of a one-quarter course in supply and demand and the free enterprise system. This course (entitled "The Price is Right") is the first of five such courses to be written by Hellgate teachers in the program which will continue for the next two years.

Since school systems within Montana vary in size, teaching methods, and student environment, the Council has acted to broaden its base of school systems actively involved in curriculum development. This summer nine teachers from Fort Benton, with teaching responsibilities across all age groups, are writing forty-five individualized learning (I-L) units on economic concepts. These I-L units are based on group or individual activities

that permit the student an option in choosing the method by which he learns. For example, a sixth-grade unit in world geography uses readings, a slide tape show, group projects, and a programmed study guide to teach the economic consequences of the dependence of certain South American countries on agricultural production. An eleventh-grade history unit uses biographical sketches of John D. Rockefeller and Andrew Carnegie as an introduction to modern corporate organizations. An eighth-grade home economics unit combines basic nutrition with family food budgeting. (Students compete to create recipes with minimal nutritional requirements at least cost.)

Materials Dissemination. Good teaching materials, though available, are useless if the teacher is not aware of them or does not have access to them. The Council, through the U.M. Center for Economic Education, provides a valuable materials service to Montana teachers. The Center maintains an up-to-date bibliographic service and lending library. Resource materials, references, and texts of economic education are available for all teaching levels. In addition, the Center has a number of teaching games and simulations that may be loaned out for classroom use. New materials and teaching methods are publicized on a regular schedule in the Council's newsletter and intermittently by other means throughout the year. Teaching aids and instructional materials are provided at no cost to the student at each of the Council's workshops.

Special Programs. The Council also sponsors special projects in economic education. Chief among these is the annual Clergy Conference in Economic Education. This conference is a meeting of clergy, professional economists, and representatives of a broad spectrum of economic interests in Montana. The format includes prepared lectures, responses by special interest groups, and questions and comments from the clergy. The emphasis in the conference is the interchange of ideas and participation by everyone. More than 300 persons have attended this conference each year for the past five years.

This spring the Council will sponsor a workshop at U.M. on "Economics for Journalists." The program includes basic economic concepts and terminology. The focus of the workshop is to train journalists to translate economic jargon into

everyday language and to use reason rather than popular myth to analyze the basic economic consequences of world and state events.

The Job Is Just Started

While the Council has begun a vigorous program of activities to eliminate economic illiteracy, the job is far from complete. Council programs in teacher training, curriculum development, and materials development must be intensified. Next year the Council will again support workshops for teachers at U.M. and W.M.C. In addition, the number of intensive workshops in application of economics to the existing school curriculum will be expanded to five regional locations. The lending library at the U.M. Center will be expanded. The Hellgate project in curriculum development will be continued, and two courses, one on money and banking and one on the economics of the environment, will be written. The clergy conference will continue as a one-day regional conference in Helena.

Programs in the Planning Stage

The major new program of the Council will be the development of a package of curriculum materials on the Montana economy. Materials that deal with a state's growth and development, its economic promise and problems, must be developed within that state. Materials on Montana's economy are rarely found in Montana school curricula. To fill this gap, the Council will begin a major project to provide teachers and schools with teaching materials, curriculum guides, and textual materials.

The first phase of this project is the development of materials that may be used by teachers to create in students an awareness of the Montana economy, to establish an understanding of the interdependence of the various economic sectors

in Montana, and to encourage an appreciation of the economic conditions, resources, and institutions which make Montana's economic problems unique. Two projects are nearing the end of the planning stage. The first is a bank of some 400 socioeconomic maps of Montana which will be used as a basis for a curriculum package to follow. The second is a Guide to Field Trips in Montana and a teaching manual for using field trips in economic education. The completed package will include suggestions for class projects in preparation for the trip and debriefing guides.

Further expansion of Council efforts, beyond those described above, is crucially dependent on the availability of funding and manpower. Excellent opportunities to combat economic illiteracy exist in career education, television courses, vo-tech programs, special economic problems conferences, and many other projects. While materials and manpower are available, adequate funding has been the major constraint on Council activities. Much has been done with the contributions we have received. Much more will be done if funding is increased.

§

In summary, let me pose the issue another way. At the end of this decade, by which time our gross national product will have increased by 50 percent and by which time there will be an additional thirty million Americans, today's sixth graders will be eligible to vote. How will these young people vote? What sort of economic decisions will they be making? Will we have provided them with the basic tools to make decisions based on reason, logic, and an understanding of our economic system, or will myth and prejudice prevail?

The framework for creating an economically literate Montana exists. The facilities for teacher training exist. Diverse and proven curricula exist. What is needed is the immediate implementation of a statewide program of economic education.

CHARLES M. GILLESPIE

The Role of Interstate Cooperation in Higher Education: WICHE AND WAMI

Substantial benefits accrue to Montana students and taxpayers alike through the Montana University System's membership in a regional commission for cooperative higher education in selected professional fields

Your son or daughter is completing a four-year college course and wants to go into professional training to be a doctor, or a dentist, or a veterinarian. There are no medical or dental or veterinary schools in Montana; the courses of study are long and expensive; and admittance is difficult and limited. What's a Montana parent or student to do?

Contact WICHE or WAMI.¹

WICHE

Thirteen western states (Alaska, Arizona, California, Colorado, Hawaii, Idaho, Montana, Nevada, New Mexico, Oregon, Utah, Washington, and Wyoming) cooperate in a Student Exchange Program (SEP) through the Western Interstate Commission for Higher Education (WICHE). Organized in 1951, program activities of WICHE began in 1953 and are designed to increase educational opportunities for western youth and to assist colleges and universities to improve both

their academic programs and their institutional management.

WICHE was originally designed to provide opportunities in the health professions but has since grown to encompass eleven professional fields. Western students can now pursue their studies in the fields of medicine, dentistry, veterinary medicine, dental hygiene, physical therapy, occupational therapy, optometry, podiatry, forestry, law, and graduate library studies as if they were "in-state" residents, even though they are attending these professional schools in another state. Prior to the operation of the WICHE program, Montana students who wanted to study medicine, for instance, were forced to pay the higher "out-of-state" fees and tuition rates because there was no state medical school which they could attend. Montana students still have no state medical school available to them; however, enrollments through WICHE for the 1973-74 academic year show sixty Montana medical students enrolled at a total of eleven different schools, in eight different states, and each of these students is paying tuition and fees as if he were a resident of that school's state. Montana cooperates as a sending state in the eight health-related fields listed above. Montana also operates as a receiving state for students wishing to pursue careers in

¹Montana residents interested in knowing more about the WICHE and WAMI programs should contact:

Mr. John H. Noble, Jr.
WICHE Student Exchange Program
1231 Eleventh Avenue
Helena, Montana 59601

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forestry or law. Currently, there is one student attending the University of Montana at Missoula in the forestry program. Alaska is the only state of the thirteen which does not have its own law school and is therefore the only state functioning as a sending state in that field.

The WICHE system works through the cooperation of the various state legislatures, and relies on the understanding of some very basic economics. Costs of building a new medical school can be estimated at between \$60 million and \$100 million, and operating it for sixty-five students for one year costs around \$3 million. Through the cooperative use of the WICHE program, however, there is no need for the state of Montana to either build or maintain its own facility for medical students. A scale of support payments has been worked out through the participating schools and states for the sponsorship of students. For medical students, these support payments are \$5,000 per year and are paid by the state of Montana directly to the school providing the services and instruction. The student has only to pay the tuition and fees as if he were a resident of that state.

Through WICHE, Montana students attend out-of-state schools as if they were residents

To illustrate just how the program operates for a Montana student, let's follow Mary Doe through the process of enrollment at her medical school.

Mary is in the process of finishing her undergraduate college training at one of the Montana university system schools and has been majoring in premedical training. Through contact with the state certifying officer (in Montana, John H. Noble, Jr.), she learns that there are sixteen cooperating schools in medicine: eight in California, and one each in Arizona, Colorado, Hawaii, Nevada, New Mexico, Oregon, Utah, and Washington. Through the normal channels, she applies to the school or schools of her choice and, at the same time, sends the necessary information (proof of residence, transcript, photo, summary letter) to the state certifying officer in Helena. If the

information is in order, Mary and the WICHE office in Boulder, Colorado, will be notified of the certification. The WICHE office then will notify the schools to which Mary has applied of her certification and potential participation in the WICHE SEP program. The schools then consider her application with the others and determine acceptance or nonacceptance. It is at this point that Mary has a decided advantage over non-WICHE candidates. Schools vary, but generally preference in the selection process is given to WICHE applicants in various ways. Some receiving schools reserve a percentage of the places offered in each entering class for WICHE applicants. Some schools consider WICHE students for admission before other nonresident, out-of-state applicants. Some schools consider all applicants in their pool on the same basis, with admission offered to students ranking highest on an objective standard. In such cases, when two equally qualified students are being considered, preference is given to a WICHE-certified student. The method of extending preference to WICHE students is determined by the receiving school in consultation with WICHE staff.

Upon Mary's acceptance by one of her chosen schools, the sending state, Montana, accepts an obligation to Mary and to the receiving school. If Mary makes satisfactory academic progress, the state will pay \$5,000 per year to the university she attends. Mary accepts the responsibility of keeping the Montana certifying officer fully informed concerning changes of plans after enrollment (i.e., withdrawal for reasons of health, etc.) and for continued payment of her tuition and fees.

The manner in which the program works is largely the charge of the WICHE commission, which is a thirty-nine member group (three from each state) appointed by their governors and serving without pay. The group works closely with the staff and the college and university academic chairpersons to ease the students over any awkward steps. The schools advise the commission of changes in course offerings, enrollment data, allocation of support fees, and academic progress data on each student involved in the program. The commission has clearly indicated that the income from a WICHE student must be used by the professional school in which the student is enrolled in the best interests of the WICHE student and of

the quality of education offered in the professional program. The commission has established the amount of the support fees for each area of professional training. The support fees are based on the cost schedules submitted by the receiving schools and on the tuition rates. The schedule of support fees established by the commission for the various programs are:

	Approved 1973-74	Approved 1975-76
Medicine	\$5,000	
Dentistry	4,000	
Veterinary		
medicine	4,000	
Dental hygiene	1,000	\$1,800
Physical therapy	1,200 +	2,500 +
	clinical fees	clinical fees
Occupational		
therapy	1,200 +	2,500 +
	clinical fees	clinical fees
Optometry	1,200	2,500
Forestry	1,500	
Podiatry	2,500	
Law	2,500	
Graduate library		
studies	2,500	

During the academic year 1973-74, Montana funded a total of 162 students in the health-related fields listed above, with support payments of \$596,001 appropriated by the legislature. Total expenditures for Montana support payments from 1953 through the 1973-74 year totaled \$2,809,634 for 1,315 students. To illustrate the growth and acceptance of the WICHE program: In the first year, 41 students from five states participated in the program. They studied in three fields—medicine, dentistry, and veterinary medicine—at five schools with state support fees totaling \$70,000. This year, 1,007 students from eleven states are studying in eleven professional fields. Sixty-four schools now have students registered and another thirty-four have agreed to participate. The state support fees for the 1973-74 academic year total \$3,573,471.

Schools cooperating in the WICHE program, and the fields of study available, are as follows:

Medical Schools

Loma Linda University
Stanford University
University of Arizona
University of California Davis
University of California Irvine
University of California Los Angeles
University of California San Diego

University of California San Francisco
University of Colorado
University of Hawaii
University of Nevada
University of New Mexico
University of Oregon
University of Southern California
University of Utah
University of Washington

Dental Schools

Loma Linda University
University of California Los Angeles
University of California San Francisco
University of Oregon
University of the Pacific School of Dentistry
University of Southern California
University of Washington

Veterinary Schools

Colorado State University
University of California Davis
Washington State University

Dental Hygiene Programs

Idaho State University
Lane Community College
Loma Linda University
Rangel College
Sheridan College
University of California San Francisco
University of New Mexico
University of Oregon
University of Southern California
University of Washington

Occupational Therapy Professional Curricula

Colorado State University
Loma Linda University
San Jose State College
University of Puget Sound
University of Southern California
University of Washington

Optometry Schools

Los Angeles College of Optometry
Pacific University
University of California Berkeley

Physical Therapy Professional Curricula

California State College
Childrens Hospital of Los Angeles
Loma Linda University
San Fernando Valley State College
Stanford University
University of California San Francisco
University of Colorado
University of Southern California
University of Utah
University of Washington

Podiatry Schools

California College of Podiatric Medicine

Forestry Schools

Colorado State University
University of Idaho
University of Montana
Oregon State University
Utah State University
University of Washington
University of California Berkeley
Northern Arizona University

Law Schools

All WICHE states except Alaska have their own law schools.

WAMI

All WAMI students are also WICHE students, but are, in addition, participants in a special, experimental program in medical education designed to reduce the physician shortage in small communities in the states of Washington, Alaska, Montana, and Idaho (thus, WAMI). WICHE and WAMI student procedures are identical, the only difference being the manner in which the medical education is attained. Those students choosing and being accepted by the University of Washington Medical School become WAMI students. Medical students who do not plan to practice in small communities apply to one of the other medical schools in the WICHE program.

There is a clear need for more primary-care (family) physicians in the small communities of the WAMI states. Based on its population, Alaska has only one-half of its fair share of the available U.S. physician pool. In 1969, Idaho's physician-to-population ratio was 89:100,000, compared to the U.S. average of approximately 150:100,000. Montana had only 100 physicians for each 100,000 persons. Washington's physician population is also slightly less than the national average.

Alaska, Montana, and Idaho are at a particular disadvantage. None of the three states has a medical school, and an estimated \$60 million to \$100 million would be needed to build one such facility. As do all other state-supported schools in the country, the University of Washington's school must give preference to applicants from its own state, and even then approximately three students apply for each one that can be accepted. None of

the WAMI states has the economic resources to devote to construction of new facilities or, in Washington's case, to adequately expand the existing medical school facilities.

With the foregoing needs and costs in mind, the WAMI program was begun through a three-year feasibility and planning grant from the Commonwealth Foundation of New York City to the University of Washington School of Medicine. The principal difference between this program and the WICHE program is the manner in which the education of the students is handled, with the focus of attention on the rural, practicing, primary-care physician. Certification for enrollment in this program is the same as for the WICHE program. Funding of the program through the state legislature is the same for the two programs. The major difference in the two programs is the focus of attention and the utilization of resources of the individual states for portions of the schooling.

In the university phase, students are permitted to take the first portions of their basic science requirements at participating universities in Washington, Alaska, Montana, and Idaho. Montana students accepted into WAMI take the first part of their medical education at Montana State University in Bozeman. They then go to the University of Washington School of Medicine, where they join their class for the balance of their basic curriculum.

The WAMI program educates primary-care physicians who will practice in small communities

At the conclusion of the first two years, the students enter the elective phase of their education, which is predominately clinical in nature. During this elective period, WAMI students receive part of their training at the University of Washington School of Medicine and part of their clinical education from private physicians in the communities where the physicians live and practice. These community clinical units have been

established to provide nonmetropolitan educational experiences in family medicine, pediatrics, internal medicine, and obstetrics and gynecology. Medical graduates seeking advanced residency training in these specialties also work in the clinical units, providing additional health manpower often needed in small communities.

Both resident and WAMI students are encouraged to take their families with them and to become involved in the local community life. During their stay, the students become familiar with the patients and the community, the types of illnesses the family physician sees, and the role and kind of life the doctor has in a rural community. Because physicians often practice in the areas where they have had clinical training, it is hoped that this exposure to the attractions of medical practice in a small community will influence the

WAMI students to return there to establish practice.

As indicated earlier, the WAMI program is being funded as an experiment. The attitudes and performance of the students and participating faculty are continuously assessed to determine if the project could become a practical ongoing program. Tests given at all levels indicate that the education received through WAMI is at least equal to that received through the usual educational process. In addition, the students and their physician-teachers at the community clinical units have found their work together to be a rewarding experience. In all instances, the greatest benefit seems to be for the people who are living in the semi-isolated rural areas of the four states: these people will ultimately have the services of a primary-care physician through this program.

SUSAN SELIG WALLWORK

Montana County Population Estimates— 1972 and 1973

*Estimates of population
change since the 1970 census*

In 1969, the University of Montana Bureau of Business and Economic Research began developing intercensal population estimates for Montana's fifty-six counties. During this period, the U.S. Bureau of the Census was establishing its Federal-State Cooperative Program for Population Estimates, a cooperative program between the Census Bureau and the individual states for the development and regular publication of county population estimates for the years between the decennial censuses. Governor Anderson designated the Bureau of Business and Economic Research as the participating agency for Montana.

The 1971 and provisional 1972 estimates released in 1973 and published in the Summer 1973 issue of the *Montana Business Quarterly* were the first official estimates prepared through the program. The next series of estimates, for 1972 and 1973 (provisional), have been released recently and are presented in the accompanying table.

The July 1, 1972 estimates for the counties are averages of figures derived using two methods:

1. *The Regression Method (ratio correlation).* Using this technique, the change in the proportion of the state's population in a particular county is related to the change in that county's proportion of the state total for each of several data series, such as births, deaths, and the like. The functional relationship thus established between

population and each of the various indicators is expressed as an equation in which current data are then used to estimate the proportion of the current total state population held by each of the fifty-six counties. The data series used in the Regression Method for Montana are births, deaths, elementary school enrollment, and the number of automobiles assessed. The prediction equation for the 1970s is based on the relationship established between population and these data indicators during the previous decade.

2. *The Census Bureau's Component Method II.* This method employs vital statistics (births, deaths) to measure the natural increase, and elementary school enrollment to measure net migration. The resulting estimates are specific to the civilian population under sixty-five years of age. Medicare statistics are used as a basis to estimate the resident population sixty-five years of age and over. To these estimates of the civilian resident population are added estimates of the resident military population, based on military station strength, to derive the total resident population.

The averages of the estimates obtained from these two methods are then adjusted as necessary to agree with the July 1, 1972 state total that is prepared independently by the Bureau of the Census. These final 1972 estimates, of course,

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Spring 1974

**Estimates of the Population of Montana Counties:
July 1, 1972 and July 1, 1973**

County	July 1, 1973 ^a	July 1, 1972	April 1, 1970 ^b	Change, 1970 to 1973		Components of Change, 1970 to 1973			
				Number	Percent	Births	Deaths	Net Migration	
								Number	Percent
Montana, total	721,000	716,000	694,409	26,000	3.8	39,000	22,000	9,600	1.4
Beaverhead	8,000	8,200	8,187	-200	-1.9	400	300	-200	-3.0
Big Horn	11,100	10,300	10,057	1,000	10.3	700	300	600	6.1
Blaine	6,800	6,700	6,727	(Z)	0.6	400	300	-100	-1.8
Broadwater	2,700	2,600	2,526	200	8.2	100	100	100	5.5
Carbon	7,800	7,500	7,080	700	8.7	300	400	800	11.1
Carter	1,800	1,900	1,956	-100	-5.9	100	100	-100	-6.9
Cascade	83,700	84,200	81,804	1,900	2.3	5,100	2,200	-1,100	-1.3
Chouteau	5,900	6,300	6,473	-500	-8.2	300	200	-600	-9.4
Custer	11,300	11,800	12,174	-800	-6.7	600	400	-1,000	-8.2
Daniels	3,100	3,100	3,083	(Z)	0.5	100	200	(Z)	1.2
Dawson	10,900	11,000	11,269	-300	-2.9	700	300	-700	-6.3
Deer Lodge	15,800	15,900	15,652	100	0.8	800	600	-100	-0.5
Fallon	3,800	3,900	4,050	-200	-5.7	200	100	-300	-8.5
Fergus	12,700	12,600	12,611	100	0.8	600	500	(Z)	0.2
Flathead	40,600	41,000	39,460	1,100	2.9	2,000	1,300	400	1.1
Gallatin	35,800	35,000	32,505	3,300	10.0	1,700	800	2,300	6.9
Garfield	1,800	1,700	1,796	(Z)	-0.7	100	100	(Z)	-1.9
Glacier	11,400	10,900	10,783	600	5.4	700	400	200	1.8
Golden Valley	1,000	900	931	(Z)	3.4	(Z)	(Z)	(Z)	1.8
Granite	2,600	2,600	2,737	-100	-4.4	200	100	-200	-8.6
Hill	17,600	17,900	17,358	300	1.5	1,000	500	-300	-1.6
Jefferson	6,700	6,200	5,238	1,500	28.3	300	200	1,400	28.3
Judith Basin	2,600	2,600	2,667	(Z)	-1.0	100	100	-100	-2.6
Lake	15,600	15,400	14,445	1,200	8.2	800	600	900	6.6
Lewis and Clark	35,500	34,800	33,281	2,200	6.6	1,900	1,100	1,400	4.2
Liberty	2,500	2,400	2,359	100	4.0	100	100	100	2.8
Lincoln	17,700	17,900	18,063	-400	-2.2	1,100	400	-1,100	-8.2
McCone	2,800	2,700	2,875	-100	-1.9	200	100	-100	-3.9
Madison	5,600	5,600	5,014	600	11.2	200	200	600	11.0
Meagher	2,200	2,200	2,122	100	3.8	100	100	100	3.5
Mineral	3,300	3,200	2,958	400	12.7	200	100	300	9.5
Missoula	61,200	60,700	58,263	3,000	5.1	3,300	1,500	1,200	2.1
Musselshell	4,100	3,900	3,734	400	10.0	200	200	400	10.3
Park ^d	11,800	11,800	11,261	600	5.2	500	500	600	5.1
Petroleum	600	700	675	(Z)	-4.3	(Z)	(Z)	(Z)	-4.9
Phillips	5,200	5,200	5,386	-200	-3.8	300	200	-300	-5.4
Pondera	7,200	7,300	6,611	600	9.6	400	200	500	7.5
Powder River	2,100	2,500	2,862	-800	-27.0	100	100	-800	-29.2
Powell	6,800	6,900	6,660	200	2.4	300	200	(Z)	0.6
Prairie	2,000	1,800	1,752	200	12.6	100	100	200	10.7
Ravalli	16,900	16,100	14,409	2,500	17.2	700	600	2,400	16.5
Richland	9,700	9,700	9,837	-100	-1.2	600	300	-400	-3.8
Roosevelt	10,000	10,600	10,365	-300	-3.3	800	400	-700	-6.4
Rosebud	6,600	6,400	6,032	600	9.2	500	200	300	4.3
Sanders	7,400	7,500	7,093	300	4.8	400	300	200	3.4
Sheridan	5,500	5,800	5,779	-200	-4.1	200	200	-200	-4.2
Silver Bow	42,200	42,100	41,981	200	0.6	2,500	1,900	-300	-0.7
Stillwater	4,800	5,000	4,632	200	4.4	200	200	200	3.9
Sweet Grass	3,000	3,100	2,980	(Z)	0.5	200	100	(Z)	-0.6
Teton	6,600	6,500	6,116	500	7.5	300	200	400	6.5
Toole	5,500	5,700	5,839	-300	-5.5	300	200	-400	-6.9
Treasure	1,100	1,200	1,069	(Z)	1.0	100	(Z)	(Z)	-2.8
Valley	13,300	11,900	11,471	1,800	16.1	700	300	1,500	13.0
Wheatland	2,500	2,300	2,529	-100	-2.8	100	100	-100	-3.7
Wibaux	1,400	1,300	1,465	-100	-7.3	100	100	-100	-8.6
Yellowstone	92,300	91,000	87,367	4,900	5.6	5,000	2,200	2,100	2.4

Notes: The state estimates are shown to the nearest thousand and county estimates are rounded to the nearest hundred. Net migration is the difference between net population change and natural increase (excess of births over deaths); a negative figure denotes net outmigration.

Z denotes less than 50 or less than 0.05 percent.

^aProvisional.

^bCensus.

^cBirths and deaths are based on reported vital statistics from April 1, 1970, to December 31, 1972, with extrapolations to June 30, 1973.

^dYellowstone National Park is included in Park County.

supersede the provisional 1972 estimates published in 1973. Also, because of revisions in the input data for some counties since the 1973 report, the current estimates may not be strictly comparable with earlier estimates.

The provisional July 1, 1973 estimates for the counties were developed by adding the change between 1972 and 1973 Component Method II estimates to the 1972 estimates; these provisional estimates were then adjusted to the provisional 1973 state estimate prepared by the Census Bureau.

A new series of net migration estimates for the counties has been added with the current report. These migration figures are based on estimates of population change and of natural increase between 1970 and 1973. Net immigration is indicated when the population increase exceeds the natural increase, and net outmigration (shown as a negative figure) is indicated when the population has declined or the population increase is less than the natural increase.

It should be emphasized that the 1972 and 1973 population figures and the net migration figures

are estimates and should not be viewed with the same confidence as the decennial census counts. The population estimates are an average of two figures, as noted above, and are adjusted to an independently derived state estimate (which, in Montana's case, has historically tended to be somewhat high). The net migration estimates, in turn, are based on these county estimates and on estimates of total natural increase during the period from April 1, 1970 to July 1, 1973. Thus, they are not as accurate as actual census counts. They may, however, be compared with census figures.

The state and county estimates shown in the accompanying table have been published in the Census Bureau report "Estimates of the Population of Montana Counties and Metropolitan Areas: July 1, 1972 and 1973," *Current Population Reports*, Series P-26, No. 53. Copies of this report and subsequent reports may be obtained from the Bureau of Business and Economic Research, which maintains a mailing list for individuals and organizations who wish to receive population estimates as they are published.

HENRY POLSON
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How Great Falls Businessmen Handle Their Advertising Programs

The ultimate purpose of advertising is to sell something, whether a product, an image, or reputation and trust. Advertising is essential to the functioning of a business, but determining how much is needed can be difficult. Because advertising costs are a significant part of most businessmen's budgets, the authors undertook a market research project to answer the question, "How does the Great Falls merchant determine what is the right amount of retail advertising?" We believe this information should provide other businessmen with a useful basis for establishing, comparing, and evaluating their advertising dollars.

According to the textbooks, there are a number of methods which a businessman might use to determine the size of his advertising budget. "Logically, the advertiser should set his advertising appropriation at the point where the last dollar spent on advertising will just equal the profit on the sales produced by that dollar."¹ This is an impossible task, particularly on a local level where funds for any market research are scarce to nonexistent. However, keeping the logic in mind while surveying alternatives is helpful.

An obvious method of determining advertising appropriations is the "affordable" method.² This is

a very arbitrary system in which a businessman merely decides "How much can I afford?" and then spends it. This easy answer shows a lack of planning and is subject to waste and misdirection, especially if spent in a panic as a last resort during a sales slump. It may also lead to investing more or less

Some Ways to Set an Advertising Budget

than is required, unless market opportunity just happens to be the same as funds available. The company may be under-investing in advertising, particularly if a strong opportunity exists.

Another method is the "competitive parity" approach.³ Here the major emphasis is placed on what the competition is doing, and can take three forms: matching competitive advertising expenditures on a dollar-for-dollar or percent of sales basis, matching industry averages for similar businesses, or basing appropriations on a ratio of share-of-market to share-of-advertising. The figures necessary for using this approach can often be obtained from various government, business, or trade publications. If they are not available, the businessman must make his own estimates. The disadvantage of this method is that it allows the

¹Albert Frey and Jean Haterman, *Advertising* (New York: Ronald Press, 1970), p. 369.

²Philip Kotler, *Marketing Management* (Englewood Cliffs, New Jersey: Prentice Hall, 1972), p. 669.

³Frey, p. 379.

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competition to take the offensive and dictate a course of action which may be wasteful and/or inappropriate for this particular merchant's business. It also implies that his competitors have greater insight into, and knowledge of, the market than he does.

A variation of the "competitive parity" method, suggested by a vice president of A.C. Nielsen Co. as being particularly appropriate for new business, is for a new business in an area to spend one and a half times its market share goal on advertising for each of the first two years. Thus, if the goal is to capture 20 percent of a market, a business should spend 30 percent of the total market's advertising dollars over each of the first two years to achieve that goal.⁴ While this is a widely followed rule, it does not explain how to determine market share for a totally new product or for a business which is unlike any other.

A third method for determining advertising appropriations is the "objective and task" method, in which the merchant defines his advertising objectives as specifically as possible, preferably in numerical terms, outlines the tasks that must be performed to achieve his objectives, and estimates the cost of performing these tasks. By this system, the sum of these costs is his appropriation.⁵ Its major flaw is that it fails to question whether the objective is worth the cost.

The "percent of sales" method is the approach most widely used, and sets advertising appropriations as a fixed percentage of last year's sales or of the average of sales for several previous years. One advantage of this method is its relative simplicity. An entrepreneur need only know the amount of his past sales and what percentage of it he wishes to spend. The percentage figure can be arbitrary, based on competition, or researched from trade literature. The usual percentage range is from 1 to 5 percent of sales, depending on the type of business involved. The rationale behind the percent of sales method seems to be that advertising is a *result* of sales rather than a *cause*. (It would probably be more logical to use last year's profits as a guide instead of last year's sales, because this would tie the expenditure more closely to funds generated from advertising.) The percent of

sales method also appears to be rather inflexible, making no allowance for a decline in sales due to too little advertising or to advertising that is not taking advantage of rising sales potential. Because the productivity of advertising is unknown, there is always the suspicion that using a percentage of last year's sales may be underspending where sales potential is great or overspending when potential is weak.

One variation of the percent of sales method takes into account a rough sales forecast for the near future, usually a year or less, and combines a percent of this with past sales figures. This combination offers the stability of the past with a flexibility for the future. It also forces the businessman to make some predictions of future economic conditions, which is a beneficial practice for his business in terms of planning for budget and inventory control and for future manpower needs.

These are some of the options which marketing experts suggest. It is obvious that the determination of an advertising budget is rarely a precise or scientific exercise. Businessmen must recognize, also, that much of advertising, particularly timing, copywriting, and media choice, is still an art rather than a science. Because of this, advertising effectiveness may very well *not* be a function of total dollars spent.

§

In planning to interview Great Falls businessmen about their advertising programs, we chose to interview the managers of nine different types of businesses: (1) recreational vehicle dealerships; (2) automotive dealerships; (3) department and furniture stores; (4) farm and ranch equipment and supply houses; (5) multi-product discount houses; (6) grocery stores; (7) men's and women's apparel stores; (8) electrical supply and appliance dealerships; and (9) specialty shops. The specialty stores are those that handle a limited line of merchandise of a special nature, e.g., a cheese store, ski shop, etc. Two businesses dealt in dual product lines, which placed both of them in two categories. For the purposes of evaluation, they were each considered to be two separate businesses, thus giving a base of 47 interviews.⁶

⁴S. Watson Dunn, *Advertising—Its Role in Modern Marketing* (New York: Holt, Rinehart and Winston, Inc., 1969), p. 251.

⁵Kotler, p. 671.

⁶See Appendix 1.

Because of the time constraints of the study, the choice of businesses within each category was based upon those whose management could be most conveniently interviewed. The group of businesses interviewed is not necessarily typical of all Great Falls businesses. As we have indicated, they were not selected randomly; nor is the composition of this group by kind of store necessarily typical of all retail trade in Great Falls.

The managers of the businesses in the group were asked questions concerning advertising strategy, budgeting methods, media choice, phasing (timing) of advertising, and advertising assistance received. The questions listed in Appendix 2 were used as a guide to interviewing each manager. Responses were classified according to category so that inferences could be drawn from the results.

Results of the Survey

Their responses reveal that the businessmen interviewed do not have clearly formulated objectives for their advertising. Most of them said that they want to increase sales, but in many cases they have no specifically defined advertising plan or strategy. Sometimes there is a great variation in strategies within one category of store. For example, one recreational vehicle dealer said that

Advertising Objectives Unclear

his main objective is to get people to his lot; then it is up to the salesmen. His aim is to make contact with the people who already have an interest in recreational vehicles, rather than to attempt to induce that interest. Toward that end he advertises heavily in season and not much the rest of the year. Since he does not have a counter-cyclical product, he counts on having a good summer. On the other hand, another dealer's strategy is to advertise heavily in the off season to try to stabilize sales. Apparently he is trying to promote sales to people who are not ordinarily in the market at that time of year.

Another interesting strategy is that of the manager of a men's store which is located in a shopping center. He uses little media advertising (less than 1 percent of sales as compared to the 2 to 5 percent that the other men's stores use). Instead of having a large advertising budget, he counts on the shopping center to draw people to the store. This manager believes that the strategy is proving successful because, in his opinion, the public judges his to be the leading men's store in the city.

A department store manager said that his main purpose in advertising is to keep the name of the store in front of the public. He views advertising as a capital investment of the store because of the long-range effect it has on the store image. His ads are designed to emphasize the quality of the merchandise as well as the fact that they have the latest product styles.

§

Although there exists among the merchants a wide range of advertising objectives, one common approach to the problem that we did find is their use of cooperative advertising. In this case suppliers pay a percentage of the cost of an ad that features their product; usually this is 50 percent of the total cost of the ad. This use of cooperative advertising ranges from those who seldom use it to others who only advertise on this basis. It has several advantages, both to the retailer and to the supplier. Co-op advertising lowers costs to the retailer and gives him more professional-looking ads (which are usually supplied by the manufacturer). It also allows a local retailer to be involved in a national ad campaign. The manufacturer and supplier also benefit because co-op advertising encourages local promotion of their products and reduces their advertising costs. The disadvantages are the increased bookkeeping for both parties, and a certain lack of flexibility for the retailer. "It has been estimated that one-fourth of all newspaper ads are cooperative but even so, much co-op assistance offered by manufacturers is not utilized because retailers are not aware of its availability."⁷

⁷Douglas D. Sorenson, "Three Views of Cooperative Advertising," *Journal of Advertising Research*, X (December 1970), pp. 13-19.

Most manufacturers authorize cooperative advertising either on their high margin items, which offer greater gross profits to retailers, or on reduced price items which could increase traffic. In light of this, it seems logical that retailers should make a more concerted effort to use as much cooperative advertising as possible.

§

Before we began the survey, we suspected that the percent of sales method, historically the most popular because of its simplicity, would also be most popular among retail merchants in Great Falls. We were right: the managers' responses to the question of how they decide the amount to spend on advertising show that 80 percent of them use the percent of sales method, 11.5 percent budget a constant amount, and 8.5 percent allow what they consider to be an affordable figure. Most of them

Most Expenditures Based on Percent of Sales

qualified their answers by saying that the method indicated is actually used only as a guide from which they adjust their spending as they see fit, depending on economic conditions. Those affiliated with chains (52 percent of the sample) have less authority to deviate from the prescribed guides, and if they do, they must provide justification to their regional or national headquarters.

The method for determining the percent of sales figure to be used varies from one kind of business to another, and among businesses of the same type. Most use a percent of the projected sales for the period. Some use a percent of last year's sales plus an adjustment for any anticipated increase or decrease. One men's store manager said that he follows a percent of sales method, but that the amount is determined using national industry figures. In this way he keeps his expenses in line with the rest of the industry. He is the only respondent who said he uses this approach. There are some who use percent of sales part of the year and a constant amount the rest of the time. Finally,

one ranch supply store manager said that he uses a variable percent of sales method: when sales decline he spends proportionately more on advertising; when sales increase again he spends less. His objective in using this procedure is to stabilize sales.

Although spending a constant amount for advertising is not one of the theoretical methods suggested by the textbooks, 11.5 percent of those interviewed said that this is the method they use. This group includes two automotive dealerships, one farm and ranch equipment store, one discount house, and one grocery store. In general there is no indication of where the amount comes from, only that a constant sum is budgeted. Also, while the total amount remains constant, the manner in which it is spent varies: the media used may change from season to season, and the products promoted may differ as well. This group is more committed to an amount than to a way to spend it.

The "affordable" category contains those who budget according to the amount they believe they can afford to spend on advertising. One recreational vehicle dealer does not budget his advertising. He merely spends what he thinks is necessary to satisfy his objectives for a given month.

§

The media most preferred by those in our sample for reaching the public, and the percentage of businesses using them, are: newspapers, 74 percent; radio, 64 percent; television, 45 percent;

Most Preferred Media: Newspapers

direct mail, 21 percent; pamphlets, 10 percent; billboards, 8 percent; and credit stuffers, 6 percent (table 1). None of the stores use contests to attract customers.

Even though such decisions obviously are made, the question "How do you decide on media?" revealed considerable uncertainty. Fifteen percent of the businessmen surveyed use a trial and error method; that is, they try different media and monitor the response rate. The media that yield the best response rate in advertising dollars spent per respondent are then used. For 15 percent of the

Table 1

Percent of Great Falls Businessmen Using Selected Advertising Media

Businesses	TV	Radio	Newspaper	Billboards	Direct Mail	Credit Stuffers	Pamphlets
Recreational vehicle	80	40	60	-	-	-	-
Automotive	75	75	100	25	25	-	-
Department	86	71	100	14	43	43	28
Farm/Ranch	33	50	50	17	50	-	-
Discount	25	50	100	-	-	-	25
Grocery	25	50	100	-	-	-	-
Apparel	17	67	50	-	-	-	-
Electric	33	100	100	17	33	-	-
Specialty	20	60	40	-	20	-	20
All respondents	45	64	74	8	21	6	10

Note: Total number of businesses: 47.

managers questioned the decisions are determined elsewhere, usually at the regional or national headquarters. "Personal choice" is the method favored by 12 percent—they have a "feeling" for what is the best media mix and allocate their expenditures accordingly. The smallest proportion—10.5 percent—make their choice based on which medium costs the least in absolute terms. This group gave no indication of checking for response rate, and they do not seem to be as worried about reaching a target audience as they are about reaching *anyone*. The balance of the merchants surveyed—47.5 percent—did not indicate how they choose advertising media.

Although television is not used as much as radio, it is often considered to be a more important medium by its users than is radio. This might mean that for those who use it most, television is more important as the prime means of reaching the audience, and radio is more popular as a secondary means.

§

How the merchants phase, or time, their advertising is shown in table 2. The respondents were not asked to elaborate on how they arrived at their decisions as to when to advertise. Therefore, no inferences are drawn from their choices.

When it comes to writing copy for their advertising, most businesses receive outside

Table 2

How Great Falls Businessmen Time Their Advertising

Businesses	Seasonal Promotions	Regularly Spaced—Year-Round	Depends on Economic Conditions	No Response
Recreational vehicle	100	-	-	-
Automotive	-	50	25	25
Department	72	14	-	14
Farm/Ranch	50	33	-	17
Discount	50	50	-	-
Grocery	-	75	25	-
Apparel	83	17	-	-
Electric	50	33	-	17
Specialty	80	20	-	-
All respondents	57	30	4	9

Note: Total number of businesses: 47.

assistance, either from their suppliers (presumably, in the case of cooperative advertising), from their home office, or from the media being used. The use of agencies was not indicated to us by any of the businessmen interviewed. Only 4 percent of those responding indicated that they receive no assistance at all. Table 3 shows the percent of businesses in each category which receive assistance from each source.

Because of the sensitive nature of advertising expenditure information, there was a general unwillingness to make it available. Since it was not essential to the study, it was omitted from the analysis.

Table 3

Percent of Great Falls Businessmen Receiving Assistance in Preparing Advertising Copy from Various Sources

Businesses	No Assistance	Supplier	Media	Headquarters	No Response
Recreational vehicle	20	20	40	20	-
Automotive	-	25	50	100	-
Department	-	28	71	28	-
Farm/Ranch	17	33	17	33	-
Discount	-	50	-	25	-
Grocery	-	25	-	25	-
Apparel	-	33	17	17	-
Electric	-	50	17	-	-
Specialty	-	60	-	40	-
All respondents	4	36	26	30	19

Notes: The "No Response" group was not broken down by categories; therefore, the only entry is in the total column.

Total number of businesses: 47.

Conclusions

Not unlike many other businessmen, Great Falls merchants appear to be uncertain as to how to plan and budget for an advertising program. Unfortunately, there are no easy answers. It is worth repeating, however, that a specific statement of advertising objectives by the local businessman should lead to a more efficient use of each dollar he spends on promotion. A clear idea of what his advertising is supposed to accomplish also would make it easier for him to judge the effectiveness of his ads in fulfilling the stated objective. In addition, a statement of goals would make it easier for the merchant to set up selling budgets and promotional plans, select media, and establish a promotion schedule within his manpower and inventory constraints.

APPENDIX I

Number of Stores in Each Category

Recreational Vehicle	5
Automotive	4
Department Store	7
Farm and Ranch	6
Discount Houses	4
Grocery	4
Men's and Women's Apparel	6
Electronic and Appliance	6
Specialty	5
Total	47

APPENDIX II

Interviewing Guide

- Type of Business _____
- Position of Respondent _____
1. Why do you advertise?
Objectives _____
Strategies _____
2. How do you decide how much to spend?
3. How do you decide on media?
4. Do you use— Television
Radio
Newspapers
Billboards
Direct Mail
Credit Stuffers
Pamphlets
Contests
5. How is advertising phased?
Seasonal Promotions _____
Regularly Spaced _____
Other _____
6. Who does copywriting?
Do you get assistance from— Suppliers
Media
Agencies
Other _____
7. What is your advertising strategy?
8. \$ amount of advertising _____
9. \$ amount of sales _____

A case study

Who Signed the

Petition-signing is an old and honorable American way of exerting political pressure and influencing public decisions. Several months ago the Concerned Citizens for a Quality Environment (CCQE), a Missoula environmental group, submitted a set of petitions to the governor, lieutenant governor, and the Montana State Department of Health and Environmental Sciences requesting a two-year delay in the approval of announced expansion plans of Hoerner Waldorf Corporation at its facility west of Missoula. The petitions bore approximately 7,300 signatures variously described by the local media as representing "people from Western Montana," "people in the Missoula area," "Missoulians," and even "persons." The thought that almost one-fourth of Missoula County's registered voters may have signed the petitions piqued my curiosity. The petitions seemed to

offer an opportunity for a miniature case study in the use of one means of political pressure in what has become a highly controversial public issue—the expansion of the Missoula paper mill. The petitions had been presented to state government as an expression of the sentiments of a sizable number of Missoulians. Who were the signers? Were they registered to vote in Missoula County? Were they representative of the overall population of the county?

The procedure followed in checking the petitions was simple and straightforward. Photocopies were obtained from the Department of Health and Environmental Sciences. Of the reported 7,300 signatures (which counts only once such multiple signatures on one line as "Mr. and Mrs." or "... and family"), about 550 were eliminated because of initial illegibility or poor quality in the photocopy reproduction. Another 200-plus

signatures were duplicates or triplicates. (This low incidence of multiple signatures amounted to only about three percent of the total signatures collected. Rather than suspect malice, we might more reasonably assume apathy, indifference, caprice, or whimsy as the underlying factor.)

Total number of signatures	7,293
Illegible signatures	561
Duplicate signatures	218
	—779
Total number of usable legible signatures	6,514

After elimination of illegible and duplicate signatures, 6,500 usable names and addresses remained. Unfortunately, their quality was varied. Most signers gave their full name, address, city, and county.

CCQE Petitions?

RUDYARD B. GOODE

Professor and Dean, School of
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Some omitted one, or several, of these items. We then attempted to match these signatures with published lists such as voter registration rolls, high school student directories, and records of University of Montana students, faculty, and staff. Finally, the successful matches between signatures and lists were counted by whatever classifications were deemed feasible and suitable.

Were the Signers Registered Voters?

Of the 6,500 usable signatures, almost 2,000—or about 30 percent—could be identified as currently registered voters in Missoula County. This number is equal to approximately six percent of the county's 32,000 registered voters. It should be noted that there was apparently no attempt to acquire only the signatures of registered voters.

Legible signatures	6,514
Number of signers registered to vote in Missoula County	1,981

In nine of the county's sixty-three precincts, more than 10 percent of those registered to vote signed the petition. Since the University area was one of the target areas for the petition drive, we could reasonably assume there would be a high density of signers/registered voters in that area. Such is the case. Nearly half of the signers who were registered to vote lived in those precincts that include the University or are contiguous to it.

The answer to my first question, then, "Were the petition signers registered as Missoula County voters?" is a very definite "No." Only 30 percent of the 6,500 persons whose

signatures were usable appear to have been so registered.

Were They Representative of the Total County Population?

Since the University community was one of the groups toward which the signature effort was directed, an analysis of that effort is also in order.

Matching the legible names and addresses of signers with the 1973-74 Directory of Faculty-Staff-Students of the University of Montana shows that:

- Approximately 2,600 University students were signers. This was about one-third of the Fall 1973 on-campus student body.
- More than 40 percent of the student signers were freshmen. It is worth noting that no other class of University students was so strongly represented by signers

and that the only students required to live in dormitories are freshmen not residing in Missoula.

- Of the University student signers, slightly more than one-fifth (561) were Missoula County residents, nearly half (1,287) had residences in other Montana counties, and more than one-quarter (717) had residences in other states or nations.
- Approximately 200 faculty and nearly 100 nonacademic staff members signed the petitions.

In total, approximately 45 percent of the signers were directly affiliated with the University, either as students, faculty, or staff. Spouses of such persons are not included in this figure.

Legible signatures	6,154
Total signers from University community	2,913
Students	2,594
Faculty and staff	319

Several petitions were marked "High School" or bore some other indication that they were circulated in Missoula high schools. More than 600 signers were identified as high school students. This was about one of every six high school students in Missoula. Undoubtedly there were also some elementary school students among the signers.

Legible signatures	6,514
Total number of student signers	3,226
University students	2,594
Missoula residents	561
Montana residents (outside Missoula County)	1,287
Out-of-state residents	717
High school students	632

The combined number of high school and university student signatures on the petitions (3,200) is equal to almost half the total number

of legible signatures submitted (6,500).

Drawing upon these observations, it is clear that the answer to my second question, "Were the petition signers representative of the overall population of the county?" also is "No."

We should remember that these petitions have no legal significance. They do, however, reflect our constitutional right to legitimately apply political pressure. Let no one condemn the process. On the other hand, this brief analysis suggests that it may sometimes be appropriate to ask who signs before accepting large numbers of signatures as necessarily representative of a particular community and its voters.

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